REMARKS

Summary of the Examiner's Actions

The examiner rejected claims 1-2, 4, 5, 10-12, 14, and 15 under 35 U.S.C. § 103(a) as being obvious under Harrison in view of common knowledge. Applicant acknowledges the examiner's rejection.

The examiner objected to Claims 3, 6-9, and 16-19 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant appreciates such indication.

Rejections under 35 U.S.C. § 103(a)

The examiner rejected claims 1-2, 4, 5, 10-12, 14, and 15 as being obvious under Harrison in view of common knowledge. In order to support a rejection under 35 U.S.C. § 103(a), "the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness." MPEP § 2142, pg. 2100-121, 8th ed. "To reach a proper determination under 35 U.S.C. § 103(a), the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made." Id. The first element in establishing a *prima facie* case of obviousness is that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings." MPEP § 2143, pg. 2100-122, 8th ed. The second element is that there "must be a reasonable expectation of success." Id. The third element is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." Id.

Harrison discloses an intelligent area monitoring system. Harrison discloses a neural network connection-based computing system providing sophisticated area monitoring.

The examiner has failed to establish a *prima facie* case of obviousness because Harrison, in combination with common knowledge, does not teach or suggest each of the claim limitations.

The gateway limitation

The examiner equates the lead wire bulkhead 18 of Harrison with the gateway of Claim 1. The lead wire bulkhead is described by Harrison as follows:

> As depicted in FIG. 4, the sensor lead-wire bulkhead 18 is a separate chassis which provides an independent connector for each sensor lead-wire pair 17. The input signal from each sensor is maintained as a separate channel and is passed to the sensor receiver circuit board 22 via a multi-line ribbon cable 19. The sensor receiver circuit board connects to the hardware bus of the neural network computer 20. This input signal is typically a direct current potential difference between the sensor lead-wire conductors ranging from millivolts to a few volts.

Harrison, Col. 7, lines 54-63. The Harrison bulkhead is not intended to manage inputs from a single conductor. First, the Harrison bulkhead is designed to accept a differential voltage input from a two-conductor wire. A single conductor wire attached to the Harrison bulkhead would not produce a voltage differential and would, therefore, be inoperable in the Harrison device. Second, the Harrison bulkhead maintains independent connectors for a plurality of input signals and those input signals are passed through separate channels to the neural network processor. The Harrison bulkhead does not manage multiple input signals over a single wire.

As disclosed by Harrison, the bulkhead is not a proper substitute to the gateway of Claim 1 and would require significant redesign in order to handle communications with multiple sensors over a single conductor wire. Therefore, Harrison does not teach or suggest a gateway as contemplated by Claim 1.

The digital signal processing device (Claim 1) and the comparison device (Claim 10) limitations

The examiner equates the neural network computer 20 with the digital signal processing device of Claim 1 and the comparison device of Claim 10. The neural network computer is described by Harrison as follows:

> In the preferred embodiment, the neural network computer 20 is constructed using a workstation class microcomputer comprised of a power supply, motherboard, central processing unit, operating system, and bus for add-in hardware. The neural network computer 20 contains four functional components which are key to the present invention; the sensor receiver unit 22, the neural network processor 24, the graphic display server 26, and the data network interface 28.

Harrison, Col. 7, lines 46-53. The examiner refers Applicant to column 8, line 51 through column 9, line 23 for further details concerning the neural network computer. This section refers to arranging inputs from multiple sensors in a matrix to resolve the location of the activity within the monitored area and determining the identity of the target based upon the magnitude of the signals.

With respect to Claim 1, neither the section cited by the examiner nor any other portion of Harrison discusses applying a digital filter to the input signals to produce filtered signals which can be used to identify the target. Again, Harrison used magnitude of the signals as the identification criteria. Further, disclosure of a digital signal processing device is not found anywhere within Harrison.

With respect to Claim 10, neither the section cited by the examiner nor any other portion of Harrison discusses comparing the input signals to a reference signal to produce a result which can be used to identify the target. Again, Harrison used magnitude of the signals as the identification criteria. Further, disclosure of a comparison device is not found anywhere within Harrison.

The neural network computer is not proper substitute for the digital signal processing device of Claim 1 as Harrison does not teach or suggest the use of digital filters to convert the inputs into useful identification information. Similarly, the neural network computer is not proper substitute for the digital signal processing device of Claim 1 as Harrison does not teach or suggest the comparison of the signal produced by the sensor against a reference signal.

The single conductor wire limitation

In the rejection of Claim 1, the examiner states:

> Harrison does not disclose a single conductor wire for defining the bounded area. However, Harrison does disclose an array of sensors used to define a boundary around an area (column 2, lines 44-62 and column 10, lines 45-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that a simple wire could have been connected through the array of sensors to further enforce the boundaries of the established perimeter. Thus, adding a wire to further enforce the boundaries already defined by the sensors does not constitute patentability.

Paper Number 4, App. No. 09/522,087, pg. 3.

The examiner suggests that adding a wire to Harrison would further enforce the boundaries of the established perimeter. However, the examiner offers no suggestion or motivation for one skilled in the art to add a single conductor wire to Harrison. More specifically, the examiner's suggestion fails to appreciate that the single conductor wire carries all communication between the various sensors and the processing device. The common knowledge of the relative strengths and weaknesses of serial and parallel communications would not compel one skilled in the art to abandon the parallel arrangement of Harrison in favor of a serial communication system.

The neural network of Harrison relies on parallel processing of many differential inputs from multiple sensors to achieve the intended results. Differential inputs necessitates the use of two conductor wires. It would not be trivial to convert the Harrison apparatus to a system using serial communications and would require a redesign of virtual every component of Harrison. Consider the effect of serial polling on multiple sensors in a device intended to use contemporaneous data from multiple sensors or the special modulation and bandwidth considerations necessary to carry multiple signals on a single conductor to maintain contemporaneous data flow. Such modifications may be possible but would certainly not be considered common knowledge that one skilled in the art would appreciate just from a review of Harrison.

Accordingly, one skilled in the art would not have any reasonable expectation of success by using one single conductor wire in the Harrison to communicate with multiple sensors.

Along those lines, Applicant notes that the examiner's statement lacks evidentiary support rendering it conclusory and not properly based upon common knowledge. Therefore, the examiner's statement cannot be relied upon to reject the claims without an explanation of the supporting rationale. *See* MPEP § 2144.03, pg. 2100-131 to 133. Accordingly, Applicant requests the examiner to support the finding with adequate evidence.

The examiner has not established a *prima facie* case of obviousness based on the combination of the Harrison reference with knowledge purported to be common to those skilled in the art or on any other evidence of record. First, Harrison fails to disclose three elements of each of Claims 1 and 10, the third element of a prima face case of obviousness. With respect to Claim 1, the examiner has not provided a corresponding element for the gateway, the digital signal processor, or the single conductor wire. With respect to Claim 10, the examiner has not provided a corresponding element for the gateway, the comparison device, or the single conductor wire. Second, there is no teaching or suggestion, either in Harrison or the common knowledge, to motivate one skilled in the art to use a single conductor wire, the first element of a *prima facie* case of obviousness. Third, there is no reasonable expectation of success in using a single conductor wire with Harrison due to the complexity of Harrison, the second element of a *prima facie* case of obviousness.

Claims 2, 4, 5, 11, 12, 14, and 15 presently stand rejected but depend, either directly or indirectly, from independent base claims that Applicant believes to be allowable over the cited prior art.

For the reasons presented herein, Applicant submits that independent Claims 1 and 10, together with the claims depending therefrom are allowable over the cited prior art. Accordingly, Applicant respectfully requests that the examiner withdraw the rejections of Claims 1, 2, 4, 5, 10-12, 14, and 15 under 35 U.S.C. § 103(a).

Allowable Dependent Claims

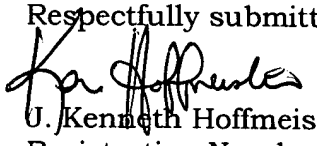
The examiner has provided that Claims 3, 6-9, 13, and 16-19 would be allowable if rewritten in independent form. The allowable dependent claims depend, either directly or indirectly, from independent base claims that Applicant believes to be allowable over the cited prior art. Applicant has argued the allowability of the underlying base claims and expressly reserves the right to represent the allowable dependent claims after consideration of the arguments presented herein.

Summary

In view of the arguments presented herein, it is believed that the above-identified patent application is in a condition for the issuance of a Notice of Allowance. Such action by the examiner is respectfully requested. If, however, the examiner is of the opinion that any of the drawings or other portions of the application are still not allowable, it will be appreciated if the examiner will telephone the undersigned to expedite the prosecution of the application.

Please charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 16-1910.

Respectfully submitted,



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